

REMARKS

Pursuant to 37 CFR § 1.114, Applicants submit the following amendment and remarks in addition to the fee set forth in 37 CFR § 1.17(e). Claims 1-49 were previously examined. Claims 1-49 were rejected. Claims 1, 4, 7-8, 16-19, 21-22, 24, 30-34, 41-43, 45, 47 and 49 are amended. Support for the amendments can be found in, for example, paragraphs [0053], [0064], [0066] and [0068] of the Application. As such, no new matter has been added. Applicants respectfully request reconsideration of the claims in view of the amendments and following remarks.

I. Rejections under 35 U.S.C. § 103

A.

Claims 1, 4-10, 13-24, 27-35, 38-49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,272,370 to Gillies, et al. (“*Gillies*”) in view of U.S. Pat. No. 5,873,823 to Eidelberg et al. (“*Eidelberg*”). In order to establish a *prima facie* case of obviousness: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference; (2) there must be a reasonable expectation of success; and (3) the references when combined must teach or suggest all of the claim limitations. MPEP 2142. Applicants respectfully submit that a *prima facie* case of obviousness has not been established.

More particularly, the references when combined do not teach or suggest all of the claim limitations of independent claims 1, 8, 23, 34, 45 and 47.

Independent claim 1 includes the limitation of “wherein *information for the plurality of target markers is stored* in a magnetic resonance imaging (MRI) system *prior to insertion of the medical device into the anatomy* and *wherein the MRI system is unable to detect or will disregard the target markers as noise without using the stored information* for the plurality of target markers to lower a detection threshold of the MRI system.”

Independent claim 8 includes the limitation of “wherein *information for the plurality of target markers is stored* in the memory *prior to insertion of the medical device into the*

anatomy, and wherein the plurality of target markers are not detectable or disregardable as noise for MRI systems (a) without [a] low-level signal detection process and (b) without using the stored information of the plurality of target markers prior to insertion of the medical device into the anatomy to lower a signal detection threshold."

Independent claim 23 includes the limitation of "*storing information for the plurality of target markers in a memory prior to insertion of the medical device into the anatomy . . . wherein the plurality of target markers are disregardable as noise or undetectable for MRI systems without using the stored information of the plurality of target markers prior to insertion of the medical device into the anatomy to lower a signal detection threshold.*"

Independent claim 34 includes the limitation of "*storing information for the plurality of target markers in a memory prior to insertion of the medical device into an anatomy . . . wherein the plurality of target markers are undetectable or disregardable as noise for MRI systems without using the stored information of the plurality of target markers prior to insertion of the medical device into the anatomy to lower a signal detection threshold.*"

Independent claim 45 includes the limitation of "*storing information for a plurality of target markers in a memory prior to insertion of a medical device into an anatomy . . . wherein the plurality of target markers are undetectable or disregardable as noise for MRI systems without the low-level signal detection process and without using the information of the plurality of target markers to lower a signal detection threshold.*"

Independent claim 47 includes the limitations of "*wherein detection information for the plurality of target markers is stored in the memory prior to insertion of the medical device into the anatomy . . . [and] wherein the plurality of target markers are undetectable or disregardable as noise for MRI systems without the low-level signal detection process and without using the stored detection information of the plurality of target markers to lower a signal detection threshold.*"

As the Examiner admits, *Gillies* does not teach or suggest "pre-scanning the medical device before inserting in an anatomy." (Office Action, p.3) Similarly, *Eidelberg* does not teach or suggest the limitations outlined previously. *Eidelberg* is directed to "[a] marker for use in

screening patients for nervous system dysfunction and a method of producing the marker.” (Abstract) The “marker” is a digital profile of the brain. (*Id.*) The digital profile consists of a grid of values that are a numerical representation of graphical images of functional activity in the brain. (*Ibid.*) Representatively, “the marker is defined in terms of a series of standardized elliptical areas encompassing pixels in the resized and spatially filtered array.” (col. 8, lns. 48-50) Therefore, the “marker” in *Eidelberg* is wholly non-analogous from the physical ferromagnetic or paramagnetic marker disposed on a medical device according to the claims in the Application. Moreover, *Eidelberg* does not discuss medical devices at all. The only reference to “insertion” of anything into a patient is the injection of a solution, namely, radiolabeled analogue of glucose, which is clearly not a medical device. (col. 8, ln. 7) Thus, *Eidelberg* cannot possibly teach or suggest “a system or method where information for the plurality of target markers is stored in a MR system *prior to insertion*” of a medical device as stated by the Examiner. (Office Action, p.3) Accordingly, *Eidelberg* does not teach or suggest storing information of a plurality of target markers in an MR system or memory of an MR system prior to insertion of a medical device.

Moreover, the “marker” of *Eidelberg*, which is a grid of values that are a numerical representation of graphical images of functional activity in the brain, is used as a comparison model to determine nervous system dysfunction. (Abstract) Representatively, a PET image scan can be taken of a patient, converted into a three-dimensional coordinate system, and compared with a “marker”, which is a grid of values. (Example 1) This is significantly different from storing information for a plurality of target markers (through a pre-scan of a medical device) in order to prevent an MR system from disregarding a signal from those same target markers according to the claims in the Application. Accordingly, *Eidelberg* does not teach or suggest the recognition of signals of a plurality of target markers by an MR system or memory of an MR system due to prescanning of a medical device.

Dependent claims 4-7 depend from independent claim 1 and therefore include all of its limitations. Dependent claims 9-10 and 13-22 depend from independent claim 8 and therefore include all of its limitations. Dependent claims 24 and 27-33 depend from independent claim 23 and therefore include all of its limitations. Dependent claims 35 and 38-44 depend from independent claim 34 and therefore include all of its limitations. Dependent claim 46 depends

from independent claim 45 and therefore includes all of its limitations. Dependent claims 48-49 depend from independent claim 47 and therefore include all of its limitations. Accordingly, Applicants respectfully submit that independent claims 1, 8, 23, 34, 45 and 47 and their respective dependent claims are allowable over the cited references.

B.

Claims 2, 3, 11, 12, 25, 26, 36, and 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Gillies* in view of *Eidelberg* and further in view of U.S. Pat. No. 5,817,017 to Young et al. ("*Young*"). Applicants respectfully submit that a *prima facie* case of obviousness has not been established in view of the arguments set forth above. Although *Young* discloses paramagnetic ions or small iron and/or superparamagnetic particles and an MR system operating at 1.5 Tesla, *Young* does not teach or suggest the limitations discussed in section I(A) above, which are incorporated in dependent claims 2-3, 11-12, 25-26 and 37. Accordingly, Applicants respectfully submit that claims 2-3, 11-12, 25-26, 36 and 37 are allowable over the cited references.


CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Shelley M. Cobos, Reg. No. 56,174

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

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Si Vuong